

Invasive Plants in Pennsylvania

Empress or Princess Tree

Paulownia tomentosa (Thunb.) Sieb. & Zucc. ex Steud.



Photo: Jessica Sprajcar, DCNR

Background:

Also known as Royal paulownia, this tree is native to eastern Asia. It was first introduced into North America around 1840 for ornamental purposes and for wood carving. Plantations of this tree are still grown in the U.S. for export to Japan, where the wood is highly prized.

Range:

This tree can be found from southern New England through the Mid-Atlantic states to parts of the south. Its range extends to Arkansas, a few counties in Texas and scattered locations in Washington state.

Description:

This deciduous tree can grow up to 60 feet in height with a trunk diameter of up to two feet. Leaves are very large (six to 12 inches long), alternate along the stem, and are hairy on the underside. The bark is rough, gray-brown and interlaced with shiny, smooth areas. Showy, fragrant, violet flower clusters bloom in the spring. Thin, pecan-shaped fruit capsules open in the fall and persist well into winter.



Photo: Tuscarora State Forest District

Habitat:

Paulownia usually invades roadsides, streambanks, forest edges and other disturbed habitats. It tolerates infertile and acidic soils and drought.

Biology and Spread:

Once a tree reaches the age of eight to 10, it is capable of producing twenty million seeds that are spread by wind and water. Trees also have the ability to sprout prolifically from buds on the stems and roots, allowing it to survive fire, cutting and other disturbances. Sprouts can grow up to 15 feet in a single season.

Ecological Threat:

This aggressive tree can take over certain habitats, displacing native vegetation.



Photo: James Allison, Georgia DNR,
www.invasive.org

How to Control this Species:

Manual and Mechanical

Seedlings can be hand pulled, especially when the soil is moist. Be sure to remove all roots to prevent resprouts.

Cutting and girdling are not suggested, as they may encourage the tree to send up root suckers. Cutting should only be used in conjunction with an herbicide treatment or as an emergency treatment to prevent seed production.

Chemical

Seedlings and small trees can be controlled by applying a two percent solution of glyphosate or triclopyr and water plus a 0.5 percent non-ionic surfactant to thoroughly wet the leaves.

Larger trees can be killed by cutting the tree and immediately applying a 50 percent solution of glyphosate or triclopyr and water to the outer 20 percent of the stump. A basal bark application of 25 percent triclopyr with 75 percent horticultural oil will also work, as long as the ground is not frozen.

References:

Plant Conservation Alliance's Least Wanted List:

<http://www.nps.gov/plants/alien/fact/pato1.htm>

Center for Invasive Species and Ecosystem Health: <http://www.invasive.org/browse/subinfo.cfm?sub=2426#images>

Southeast Exotic Pest Plant Council:

<http://www.se-eppc.org/manual/princess.html>

Look-A-Likes:

Princess tree may be confused with the native Northern catalpa (*Catalpa speciosa*). Both trees have similar size, leaf and flower structure. However, paulownia has a hollow pith, while catalpa is solid and whitish. Catalpa leaves are whorled and more pointed at the tip. Catalpa fruits are much longer (eight to 18 inches) than paulownia's (one to 2 inches).

Non-Invasive Alternatives:

Kentucky Coffeetree (*Gymnocladus dioica*)



Photo: Richard Webb, www.forestryimages.org

Cucumber-tree (*Magnolia acuminata*)



Photo: Charles Bryson, USDA,
www.forestryimages.org



Photo: Paul Wray, Iowa State U.,
www.forestryimages.org